



Facial swelling in an adolescent

Clinical findings, as well as the patient's age and sex, pointed to the diagnosis.

A **16-YEAR-OLD BOY** sought care at a rural hospital in Panama for facial swelling that began 3 months earlier. He was seen by a family physician (RU) and a team of medical students who were there as part of a volunteer effort. The patient had difficulty opening his left eye. He denied fever and chills, and said he felt well—other than his inability to see out of his left eye. He denied any changes to his vision when he held the swollen eyelids open. The patient lived on a ranch far outside of town, and he walked down a mountain road alone for 6 hours with one eye swollen shut to pres-

ent for treatment. The patient was not taking any medications and had not received any health care since his last vaccine several years ago. On physical exam, his vital signs were normal, and the swelling under his left eye was somewhat tender and slightly warm to the touch. There were no lesions on his trunk and the remainder of the exam was normal.

- WHAT IS YOUR DIAGNOSIS?
- HOW WOULD YOU TREAT THIS PATIENT?

FIGURE 1

**Facial swelling
in a 16-year-old boy**



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**Diagnosis:
Nodulocystic acne**

The family physician (FP) diagnosed severe inflammatory nodulocystic acne in this patient. He initially was concerned about possible cellulitis or an abscess, but his clinical experience suggested the swelling was secondary to severe inflammation and not a bacterial infection. The FP noted that the patient was afebrile and lacked systemic symptoms. In addition, the presence of open and closed comedones on the face, as well as the patient's age and sex, supported the diagnosis of acne. No tests were performed; the diagnosis was made clinically.

**A case of acne,
or a bacterial infection?**

The FP considered acne conglobata, acne fulminans, and a bacterial infection as other possible causes of the patient's facial swelling.

■ **Acne conglobata** is a form of severe inflammatory cystic acne that affects the face, chest, and back. It is characterized by nodules, cysts, large open comedones, and interconnecting sinuses.^{1,2} Although this case of acne was severe, the young man did not have large

open comedones or interconnecting sinus tracts. In addition, his trunk was unaffected.

■ **Acne fulminans** is a type of severe cystic acne with systemic symptoms, which is mainly seen in adolescent males. It may have a sudden onset and is characterized by ulcerated, nodular, and painful acne that bleeds, crusts, and results in severe scarring. Patients may present with fever, joint pain, and weight loss.^{1,2} Our patient did not have systemic symptoms despite the severe facial swelling.

■ **Bacterial infections** of the skin usually are caused by *Staphylococcus aureus* (*S aureus*) or *Streptococcus pyogenes* and can lead to cellulitis and/or abscess formation.³ This process was considered as a complication of the severe acne, but the clinical picture was consistent with severe inflammation rather than a bacterial superinfection.

**Treatment of choice includes
prednisone and doxycycline**

The FP knew that the severe inflammation and swelling needed to be treated with a systemic steroid, so he started the patient on prednisone 60 mg orally once daily at the time of presentation. Additionally, the FP prescribed doxycycline 100 mg bid to treat the inflammation and to cover a possible superinfection.

Doxycycline is the oral antibiotic of choice for inflammatory acne.² It also is a good antibiotic for cutaneous methicillin-resistant *S aureus* infection.³ Although it is not the treatment of choice for a nonpurulent cellulitis, it is a good option for cellulitis with purulence.³

With the working diagnosis of severe inflammatory acne, it was expected that the prednisone and doxycycline would be effective. Treating with antibiotics alone (for fear of causing immunosuppression with steroids) would have likely been less effective. Since the patient

FIGURE 2
Marked improvement just 24 hours after starting doxycycline and prednisone



lived 6 hours from the hospital by foot and was alone, he was admitted overnight for observation (with parental permission obtained over the phone).

■ **The patient's condition improved overnight.** Marked improvement in the swelling and inflammation was noted the following morning (FIGURES 2A AND 2B). The patient was pleased with the results and was discharged to return home (transportation provided by the hospital) with directions on how to continue the oral prednisone and doxycycline. He was given 1 month of doxycycline to continue (100 mg bid) and enough oral prednisone to take 40 mg/d for 1 week and 20 mg/d for another week. He was given a follow-up appointment for 2 weeks to assess his acne and his ability to tolerate the medications.

He was warned to avoid the sun as much as possible, as doxycycline is photosensitizing, and to use a large hat and sunscreen when the sun could not be avoided. (Another option would have been to prescribe minocycline 100 mg bid because it is equally effective for acne with a lower risk for photosensitization.²)

■ **Access to medical care was limited.** Although this patient was a good candidate

for oral isotretinoin treatment, he did not have access to this medication in rural Panama. Managing his acne was challenging because of the severity of the case and the patient's sun exposure in this tropical country. Access to the full range of topical anti-acne treatments also is limited in rural Panama, but fortunately his response to the initial oral medications was good.

The future plan at the follow-up visit consisted of continuing the doxycycline, stopping the prednisone, and adding topical benzoyl peroxide. The purpose of the benzoyl peroxide was to prevent bacterial resistance to the antibiotic.²

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